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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/668,292

09/24/2003

Hiroshi Taira

117303

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7590

12/01/2004

OLIFF & BERRIDGE, PLC  
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EXAMINER

STEPHENS, JUANITA DIONNE

ART UNIT

PAPER NUMBER

2853

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/668,292

Applicant(s)

TAIRA, HIROSHI

Examiner

Juanita D. Stephens

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on Application filed 9/24/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9 and 10 is/are allowed.
- 6) ☒ Claim(s) 1-3, 7 and 8 is/are rejected.
- 7) ☒ Claim(s) 4-6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 September 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Drawings***

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Reference number "35". Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Reference numbers "21", "41d", "31" and "35a". Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any

amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

3. The disclosure is objected to because of the following informalities:

On page 2, line 4 the word "bubble" is misspelled.

On page 38, line 9 replace "44f" with -42f--.

On page 38, line 11 replace "44f" with -42f--.

Appropriate correction is required.

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-3, 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugitani et al. (US 4,611,219) in view of Swanson et al. (US 5,712,669).

Sugitani et al. discloses an inkjet head (Fig. 1) comprising: **1)** a first passage unit (formed of plates 11, 12 and 13) formed with a plurality of nozzles (orifices 8-3 and 9-3) for ejecting ink, and including a plurality of individual ink passages (perforations 8-1, 8-2, 9-1, and 9-2) each leading via a pressure chamber to the nozzle, (col 2, ln 66-col 3, lns 17), **2)** a second passage unit/reservoir unit (formed of plates 1 and 5) bonded to the first passage unit by being pressurized, including a common ink passage/ink reservoir (6) extending along a bonding surface between the second passage unit/reservoir unit and the first passage unit, to reserve ink supplied from an ink tank and supply the reserved ink to the passage unit (col 2, lns 55-65), and **3)** wherein the second passage unit/reservoir unit is constituted by a plurality of plates (plates 1 and 5) laminated in a direction across the bonding surface (col 2, lns 55-60).

Sugitani does not disclose **1)** wherein the ink reservoir is formed therein with one or more pillars supporting two opposite walls of the common ink passage/ink reservoir both extending perpendicularly to a direction across the bonding surface between the second passage unit/reservoir unit and the first passage unit (recited in claim 1), **2)** wherein the common ink passage/ink reservoir has an elongated shape elongated in one direction along the bonding surface, and a cross section of the pillar has an elongated shape elongated in the one direction (recited in claim 2), and **3)** wherein, in the common ink passage/ink reservoir, the pillar is disposed near an outlet port of the common ink passage/ink reservoir (recited in claim 3). Swanson et al. at least teaches a headland region 62 comprising a flat peripheral surface area 62A, a recessed flat area 62C bounded by a generally rectilinear border 62B and a pair of rib protrusions 62D

extending upwardly from the recessed area 62C, wherein the channel opening 57 provides communication between the printhead substrate and nozzle plate. It would have been obvious at the time the invention was made to a person having ordinary skill in the ink jet art to modify Sugitani et al. by providing the rib protrusions as taught to be old by Swanson et al. for the purpose of bonding the printhead to the headland region, thus, providing a leak proof seal.

***Allowable Subject Matter***

7. Claims 9-10 are allowed.
8. The following is a statement of reasons for the indication of allowable subject matter:

The combination of a reservoir unit bonded to the passage unit, being pressurized, at a plurality of protruding areas thereof, and having an elongated shape elongated in one direction along a bonding surface between the reservoir unit and the passage unit, a plurality of actuator units for applying an ejection energy to ink in the passage unit, bonded to the passage unit in a zigzag pattern with respect to the one direction, and wherein at least one of the pillars is formed with respect to each protruding area, and at least a part of the pillar overlaps with the corresponding protruding area with respect to a direction along the bonding surface. This invention solves the problem of suppressing a defective bonding between two units each formed with an ink passage, and preventing an ink leakage from a bonding portion.

9. Claims 4-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the

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base claim and any intervening claims. Claims 5 and 6 will be allowed when claim 4 is rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter:

The limitation of wherein the bonding surface of the reservoir unit has a protruding area bonded to the passage unit, and a recessed area with a protruding amount thereof toward the passage unit being smaller than that of the protruding area. This invention solves the problem of suppressing a defective bonding between two units each formed with an ink passage, and preventing an ink leakage from a bonding portion.

#### **Contact Information**

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juanita D. Stephens whose telephone number is (571) 272-2153. The examiner can normally be reached on Flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Juanita Stephens", written in a cursive style.

Juanita D. Stephens  
Primary Examiner  
Art Unit 2853

November 22, 2004